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THE ZOOLOGIST:

A

POPULAR MONTHLY MAGAZINE

OF

NATURAL HISTORY

AND

JOURNAL FOR RECORDING FACTS & ANECDOTES

RELATING TO

QUADRUPEDS, BIRDS, REPTILES, FISHES, ANNELIDES,

INSECTS, WORMS, ZOOPHYTES, &c.

THEIR HABITS, FOOD, RETREATS, OCCASIONAL APPEARANCE,

MIGRATIONS, NESTS AND YOUNG.

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TO CORRESPONDENTS.

IN accordance with the hint already given, a second **DOUBLE NUMBER** will be published on the 1st of March; this will be charged **TWO SHILLINGS**.

The period for the 12s. prepayment has expired.

Subscribers paying 13s. before the 1st of March may receive all the numbers published during the year, whether double or single. After the 1st of March no advantage will be given for prepayment.

The January number has not been presented to the various Societies, or to the gentlemen, who, as Editors, &c., have hitherto been on the Free List: such copies, although they may be considered, in a measure, lost, still amount to a considerable aggregate, and if combined with the sale which I anticipate for that number, when its practical utility is understood, would probably have interfered with the completeness of the volume at the end of the year.

It will be seen from our pages that it is contemplated to present a Testimonial to the Rev. Joseph Greene: a doubt has arisen as to the best form for such a Testimonial, and further information will be given as early as possible.

Many most important papers unavoidably stand over, but I believe the whole of them will be included in the March number, after which every number published during the year will be charged One Shilling, the March number being **TWO SHILLINGS**.

The Papers that now stand over are:—

Proceedings of Societies.

Zoology: its Present Phases and Future Prospects. By Dr. Knox, F.R.S.E.

Reason and Instinct. By the Rev. J. C. Atkinson, M.A.

Birds of the Crimea. By Lieut. Blakiston, Royal Artillery.

Birds of Banffshire. By Mr. Thomas Edward.

Entomological Rambles in Scotland. By Mr. R. Weaver.

Lepidoptera and their Parasites. By John Scott, Esq.

And shorter Papers by J. C. Tress Beale, Esq., the Rev. Alfred Merle Norman, B.A., the Rev. H. Harpur Crewe, M.A., the Rev. George Gordon, Edward L. King, Esq., &c., &c.

EDWARD NEWMAN.

To Ornithologists and Oologists.

SMALL & SON, 38, GEORGE STREET, EDINBURGH, Preservers of Birds and Animals, and Dealers in Skins and British Birds' Eggs, have now for sale a varied Collection of **FIRST-CLASS SKINS**, comprising **EAGLES, EAGLE OWLS, HAWK OWLS, CAPERCALLIES, &c., &c.**, and a numerous assortment of **EGGS**, in good order, WHICH DESERVE THE NOTICE OF PERSONS FORMING COLLECTIONS. Communications to the above Address attended to.

EGGS.

MR. J. C. STEVENS is instructed to announce for Sale by Auction, at his Great Room, 38, King Street, Covent Garden, in the Month of April next, A COLLECTION OF RARE EGGS, made in LAPLAND by J. WOLLEY, Esq., during the last Season. Mr. J. C. STEVENS is led to believe that it will contain some of the most interesting Specimens ever seen in this Country.

38, King Street, Covent Garden, February 1, 1857.

BIRDS' EGGS.

MR. J. C. STEVENS will Sell by Auction, at his Great Room, 38, King Street, Covent Garden, on Tuesday, February 10, at One o'clock precisely, some RARE and WELL-AUTHENTICATED EGGS, collected by the REV. H. B. TRISTRAM in ALGERIA during the past Season. The Collection contains the Eggs of some of the Rarest British and European Birds.

May be viewed on the day before the Sale, and Catalogues had at the Auction Rooms, or by enclosing a Stamped Directed Envelope to Mr. J. C. STEVENS, 38, King Street, Covent Garden, W.C.

Some Remarks on the Skeleton of the Head of the Urus Scoticus.

By R. KNOX, M.D., F.R.S.E., Lecturer on Anatomy, and Corresponding Member of the Académie Impériale de Médecine of France.

THE characters by means of which the illustrious Cuvier established the specific distinctions between the extinct or fossil organic world and that now existing were mainly, if not wholly, anatomical, and were confined almost wholly to the skeleton. So long as the characters had a reference to animals of which no congeners now lived the distinctions were easily made, and admitted of no dispute; but when an attempt was made by the immortal author of the '*Ossements Fossiles*' to apply the method to species and genera analogous to many now existing, the method, if it did not wholly break down, even in his hands, became at least uncertain, and could not be trusted implicitly. The genera *Felis*, *Equus*, *Canis*, and several others, as the *Elephas* and *Ursus*, furnished grounds for disputing the universal applicability of the method. Cuvier, it is true, might have objected that, even in the now-existing living world, anatomical distinctions are not required in the discrimination of species; and that, in point of fact, many animals exist of manifestly and notoriously distinct species, in which the anatomical differences in the skeleton are scarcely perceptible, or at least such as might readily be accounted for by accident or individual variety. But this argument Cuvier did not choose to avail himself of, for reasons I have explained elsewhere.

Notwithstanding these objections, some of which are sufficiently strong, I still lean to the opinion that, were our observations sufficiently minute and practical, we should always find in different species anatomical differences sufficiently well marked to characterize these species, not so obvious, it is true, as those we derive from external characters (the horse and ass, the zebra and quagga, the wild and domestic cat, the dog and the fox, present most ample proofs of this fact), yet sufficiently well marked to support the great doctrines of Cuvier; and thus I still feel disposed to think that the fossil horse, bear, and the Carnivora were animals of species wholly distinct from those that now live. But, be this as it may, it is obvious that the distinction and separation of species is an operation in which Nature, when left to herself, never fails; and it is now all but certain that one method at least by which she perpetuates and preserves species is the



non-productibility of any hybrid races,—of at least their non-continuity or non-perpetuity as races.

All admit, however, that, as regards the animals called domestic, there exist anomalies by no means admitting of an explanation, as the production and maintenance of *breeds*, seemingly at the will of man, and the supposed persistency of these breeds.* My views on all these questions have been long before the public, and I need not, therefore, advert further to them in this short notice, the object of which is to call the attention of naturalists and anatomists to some peculiarities in the skeleton of the head of a breed of oxen supposed to be aboriginal, or at the least of great antiquity.

Many years ago I had an opportunity of obtaining a skeleton of the white ox (a young bull) of the breed of cattle preserved by the Duke of Hamilton, in the park of Cadzow, not far from the Clyde. These oxen differ in some respects from those of Tankerville, near Wooler; the latter have horns of some size and red ears; the former, black ears and muzzle, and very short horns. Both breeds are preserved by destroying the calves which are spotted, or which show other colours than their parents; and thus the breed is preserved. What form it would assume if left to itself is not known, the experiment never having been made, so far as I know.

I find by my notes now before me that I visited both parks (Cadzow and Tankerville), and also examined a few of the wild cattle, as they are called, which once existed at Drumlanrig, but which, I think, have been now destroyed. Of those of Tankerville and Drumlanrig I could obtain no specimens; of the breed at Cadzow I procured the skeleton just alluded to and two crania, which I presume also to have belonged to the male. On comparing these crania with the common short-horned bull and with the hornless Galloway breed, I find certain differences, which, if constant and found to prevail extensively in the breed, would be held, I think, by anatomists, to constitute differences amounting to *specific*.

	Inches.
In two crania of equal length, the length of the whole head in the wild ox was	18½
Ditto, in the domestic ox	18½
Length of nasal bones in the Urus	5½
Ditto in the domestic ox	8

These same bones, the nasal, which differ so much in the various races of men, were further characterized in these breeds of oxen by

* See 'The Races of Men: a Fragment,' by R. Knox.

possessing *different forms* and a different arrangement as to their articulations. In the domestic ox the nasal bones articulate with the frontal and inter- or pre-maxillary; in the wild ox they have no connexion with the inter-maxillary bones; moreover, they do not meet superiorly, so that at this point there exists a natural deficiency. The anterior palatine openings are much larger in the wild than in the domestic breed, and are quite differently shaped; the great cavity of the nostrils is broader and more capacious in all its dimensions. When we add to these the remarkable difference in the form and dimensions of the cranial cavity itself, we feel almost warranted in believing that, if such characters are found to be constant, the so-called *Urus Scoticus* must be of a species distinct from the other known domestic breeds. In the domestic ox the greatest breadth of the cranium was $8\frac{3}{4}$ inches, in the wild ox $10\frac{1}{4}$. The base also gave many other differences, which need not be here adverted to.

I had almost forgot to mention that the true turbinated bones, occupying the interior of the nostrils, are much the larger in the wild ox,—circumstances which, taken in conjunction with an increased capacity of the nostrils, would argue a higher development of the sense and power of smell; as the broader forehead and more projecting orbits would indicate an increased activity in the visual and intellectual organs. The illustrious Goëthe thought the domestic ox, with its intelligent look and peaceful habits, to be the gift of domesticity to man; and that the fierce look, savage character and deep-set eyes of the buffalo and aurochs indicated the opposite untamed character. It may be so; nevertheless, it is sufficiently remarkable that it is in the variety or breed of oxen which is generally thought to be the type or origin, and which has undergone the least of that influence, domesticity, to which Goëthe attaches so much modifying importance, that we find the wide, expanded brow, prominent eye and shortened face,—characters which most are inclined to connect with finer powers of observation and a larger share of intellectual capacity.

R. KNOX.

December, 1856.

Dreaming in the Canine Race.—If any of the readers of the 'Zoologist' possess any well-authenticated instances of any animal (the dog excepted) *dreaming*, I should be extremely thankful if they would kindly forward the same to me.—*J. C. Atkinson; Danby Parsonage, Grosmont, York.*

Musical Mice, but not singing Mice.—The subjoined curious paragraph appears in

the 'Devizes and Wiltshire Gazette' of the 6th instant, and would seem worthy of a more permanent record in the pages of the 'Zoologist.' There being so much circumstantial evidence as to names of witnesses, I see no reason to doubt the truth of the story; and, indeed, this strange fascination of animals by the sound of the human voice is hardly more wonderful than the effect sometimes produced by the same cause on birds. A caged bullfinch, for instance, will instantly begin to sing on hearing the voice of a particular individual, though an entire stranger, and this, too, without the sound being heard in song, but merely in the utterance of simple conversation! Are we, then, to reject as incredible this narrative following?—"Musical Mice at a Concert.—The 'Western Flying Post,' in reporting a concert last week, by Miss Louisa Foote Hay, at Colyton, mentions the following singular circumstance:—Soon after Miss Hay had commenced her first song, 'Annie Laurie,' the party occupying the first seat saw a mouse sauntering leisurely up and down close to the skirting of the platform on which she was singing. As the song proceeded the mouse seemed spell-bound; a lady tried to drive it away by shaking her concert-bill at it, but the animal had lost its fear of man and would not retire. At the conclusion of the ballad the mouse vanished, but reappeared, bringing with it a companion, when the next song was commenced. At the end of the second song the two mice retreated to their hole, but made their third 'appearance on the boards,' when the singing was again renewed! Eventually six or seven mice came out regularly with every song, and retired when the music ceased. Whilst the melodious tones filled the apartment all attempts to drive away the mice were vain: these most timid members of the animal kingdom were too fascinated to be in terror of the human family who actually filled the room; and though a fiftieth part of the means used to drive them would, under ordinary circumstances, have been sufficient to have scared them away, they now stood, or slowly glided, so entranced by the sacred melody which pervaded the room, that they were heedless of the presence of their natural enemies. How naturalists may explain this phenomenon we know not, nor shall we swell this article by attempting a solution, but shall simply conclude this strange truth—stranger than fiction—by referring any persons who may doubt our statement to Mr. and Mrs. Kingdon, of Colyton, Mrs. Carew, of Seaton, Mr. Leversedge, of Taunton, and Miss Isaacs, of Colyton, who were in the foremost seat, and who can vouch for the truth of our report." Such is the newspaper account, *quantum valeat*: what verdict shall we pronounce?—A. R. Hogan; Corsham, Wilts, November 15, 1856.

Australian Field Rat.—Just after I had seen Mr. Briggs's anecdote of our long-tailed field-mouse (Zool. 5311), I met with the following passage in the journal of a missionary tour in South Australia by the Rev. D. J. H. Ibbetson, missionary at Burra:—"I had scarcely got a mile on my way before I saw a creature draw itself into a crevice in the dray-track, which appeared to me, at first sight, to be a huge species of the Tarantula, with seven or eight long fleshy legs. I instantly dismounted, and commenced excavating it with the hammer at the end of my whip; when I soon discovered a field-rat with ten young ones, each fastened to a separate pap, and which she seemed to be able to transport from place to place by this means without inconvenience. The sight was such a novelty to me, that I cannot omit the mention of the circumstance, as it may prove interesting to those who take delight in studying the habits of these creatures."—*The Mission Field*, Vol. i. No. 11, p. 257.—Arthur Hussey; Rottingdean, November 3, 1856.

Occurrence of the Barbastelle Bat (*Barbastellus Daubentonii*, Bell) in Suffolk and

Norfolk.—On the night of the 29th of August last, at about half-past 11 o'clock, a bat flew into my bed-room here, which, from its very dark colour, at once attracted my attention. I induced it to enter the adjoining chamber, and, having carefully closed all means of exit, left it until the morning, when I found it suspended, in a dark corner, to a box fixed against the wall. A very slight examination was then sufficient to show that it was an example of that rare British species, the barbastelle, as, indeed, I had suspected from its appearance over night. I proceeded to kill it by compression, and left it, as I thought, dead; but on entering the room about half-an-hour afterwards it was nowhere to be discovered. This somewhat disconcerted me; but, again closing the room, I left it until the following morning, when I found it suspended in exactly the same place as before. I then carefully compared it with the description given by Professor Bell, with which it agreed most accurately; and considering that my attempt on its life had caused it no injury, and that it had undoubtedly earned its right to live, I liberated it without further molestation, and saw no more of it. It was a male specimen, and, though so dark in its general appearance, yet had enough grayish hairs on the lower part of the back to give that region quite a silvery appearance. When taken in the hand it uttered a few faint but shrill squeaks, making, however, no attempt to bite my fingers. Mr. J. H. Gurney has in his collection an example of this species, which, some years since, he took from behind the bark of a hollow tree at Easton, in Norfolk; and this, except the one mentioned above, is the only specimen I have ever heard of as occurring in this part of England.—*Alfred Newton; Elveden Hall, Thetford, December 15, 1856.*

Birds of the Crimea. By THOMAS BLAKISTON, Esq.,
Lieut. Royal Artillery.

(Continued from page 5348).

INSESSORES.

The Shrikes and Flycatchers.

Were I writing a popular history of birds, I might include among these the swallows, bee-eaters and nightjars, and call them the insect falcons and owls, for they occupy much the same relative positions; but in the present case I have followed the latest classification, for, as Gilbert White says, "Without system the field of Nature would be a pathless wilderness."

The lesser gray shrike (*Lanius minor*) was not uncommon about the hills of the Chersonese, where brushwood existed, from the beginning until the end of May; and the redbacked shrike (*Lanius collurio*) was also numerous from the end of April until the end of May, after which I had no opportunity of observing them; but

I have no doubt that they both breed, and remain the greater part of the summer.

I think, however, that the great gray shrike (*Lanius excubitor*) is rather a scarce bird in the southern part of the Crimea, for Dr. William Carte did not obtain a single specimen, and I have not seen another from that country besides the one which I have, which I procured on the 11th of April, soon after the declaration of peace, in the following manner:—I had ridden, with two others, through the Valley of Baidar to the hills on the North overlooking the Valley of the Belbec, returning past a projection of the Mackenzie plateau, the Cape of the Winds; we had just struck the head-waters of the Chului, a small tributary stream of the Tchernaya, the water of which was conducted by an aqueduct eleven miles into Sebastopol, for the supply of the docks; and as we were riding along we observed a light-coloured bird on the top of a tree, appearing like a small hawk. I disturbed it, by which I saw what sort of bird it was, and therefore left my horse with the others; and unslinging my fowling-piece I approached with a view of stalking it. It was, however, very shy, shifting to another tree every time I was getting near enough. At last, taking a chance shot as it was making a flight, I brought it to the ground; but it rose again, and led me a long chase over some enclosed land; and after some search I found it quietly sitting on a bush, where it allowed me to approach close enough to kill it with dust-shot. I carried it for about twelve miles in a small saddle-bag to camp, and skinned it the next day. I never saw another. This was the first bird which I shot within the Russian lines.

Mr. Gould considers that some specimens of the redbacked shrike (*Lanius collurio*), from the Crimea, which he examined, differed in being rather less than British specimens, but sufficiently to be considered distinct. I may here state that nearly the whole of my specimens have been examined by Mr. Gould, who has been kind enough to afford me much valuable information.

I find in my journal, "July 1. There are flycatchers here." This may have been written while resting awhile during the heat of the day when out with my fowling-piece hunting for subjects of Zoology, or it may have been noted in the journal on coming in from a ride, during which I may have made the observation; at any rate, though in so few words, yet it denotes a fact, and helps to assure us that the shortest notes made at the time are afterwards of much value. "There are flycatchers here:" quite right, for two months after I made my first capture of a pied flycatcher (*Muscipapa atricapilla*), which was the only

specimen of the species I obtained, but a few days after I procured the spotted flycatcher (*Muscicapa grisola*), which species was common during the month of May.

Before passing on to a family of birds the migration of some of the members of which is allowed by even casual observers, I may state that the scantiness of my notes during summer, autumn and the beginning of winter is to be accounted for, not only on account of a severe attack of fever, which incapacitated me for duty for between two and three months, but also by my not having a book of reference on birds: I was like a sailor making observations of a coast without a compass. While at Scutari, however, I received from England Yarrell's 'British Birds:' here was my chart and compass; I could without difficulty recognise lands which were well known, and had ideas as to where to look for others. I returned to the Chersonese just before Christmas, with the expectation of being able to make some way. Having previously sent only a dozen specimens of birds to England, I managed, before the end of the next four months, to make the number up nearly five times, almost all of which were distinct species; for in collecting I thought it waste of time to occupy myself about handsome duplicates when I had killed others, although common, of which I had no specimens preserved: many of these I also missed, when pressed for time, because, if they agreed with the written descriptions, I cared not so much for them, but noted any trifling deviation, and then pressed forward to some of more importance; but I should recommend no one to throw away specimens which he has not among his collection, just because they appear to him to agree with descriptions, if he can possibly find time to devote to the preserving of them.

Thrushes.

Of the thrushes we can enumerate five of the true genus and two borderers as Crimean: first, the missel thrush (*Turdus viscivorus*) is most likely resident throughout the year, as it has been observed both in the middle of winter congregated in woods, and in spring about the brushwood on the hills: the specimens which I examined agreed very well.

Of the blackbird (*Turdus merula*) I can only say that I observed it both in winter and spring, when, although it was not numerous, it was not uncommon.

I did not take notice of the song thrush (*Turdus musicus*) before nearly the middle of April, when I saw half-a-dozen together, and afterwards I used often to come across them in about the same

numbers. I suppose it to be a resident, but cannot say from observation.

Dr. William Carte mentions having obtained a specimen of the redwing (*Turdus iliacus*) in January, and the fieldfare (*Turdus pilaris*) in the following month; I also observed the latter on the 12th of January, but cannot find any note about them in the spring, wherefore I suppose that they go North for the summer.

I saw at the end of April, while out early as usual one morning, what I took for a species of thrush, but it was considerably less than any of the foregoing.

Now here is a double instance of the value of books of reference and of observers working together. While out shooting along the cliffs beyond the Monastery of St. George, in the beginning of May, I caught a short glimpse of a bird sitting on the edge of a rock, but on approaching he dropped, as it were, directly down under the cliff, where there was no possibility of getting it. I had since the winter studied Yarrell's work, and looked over the beautiful woodcuts many times, and I felt convinced that I had seen the bird in that work. On returning to my hut you may imagine me turning over the leaves, which I did not long do in vain, for I soon came upon the rock thrush (*Turdus saxatilis*), and settled in my own mind that it was the bird I had seen; however, I never should have had the pleasure of bringing it forward in any other way than as a surmise, had I not mentioned the circumstance to Dr. William Carte, with whom I became by chance acquainted shortly after, when he immediately relieved me of all doubt by saying that he had procured a specimen on the cliffs near the old Genoese castle above Balaclava.

The other borderer of which I have to speak is that gaudily plumaged bird, the golden oriole (*Oriolus galbula*); as of the other I know little concerning him, nor did I take particular trouble to find out much, because his plumage is so attractive that he is often killed by sportsmen, and seldom neglected by mere collectors. It is well that scientific collectors should bear in mind the standing rule, rather to pursue the modest plumaged birds than the more gaudy; and, when speaking of this, there is another rule,—when one arrives in a new country to begin by collecting what appears to be most common, for before you know where you are they may be gone never more to be seen by you.

I shot a couple of the golden oriole (*Oriolus galbula*) on the 4th of September, and I saw a fine male specimen, which a friend of mine had killed on the 12th of May. More specimens

of this bird, I suppose, were brought from the Crimea than perhaps any other.

THOMAS BLAKISTON.

Woolwich, December 3, 1853.

Ornithological Notes from Leipzig.—When writing recently to the 'Zoologist,' I was hardly aware that the pied wagtail (*Motacilla Yarrellii*) was so uncommon a bird in Germany, as I am now told it is. The very excellent museum in this town only contains a single specimen, and that from Heligoland: the bird is an old male, and labelled "M. Yarrellii." I was the more surprised to find the species considered so rare, because I am perfectly convinced that near Greiz I saw at least three pairs, and these almost daily; in no other locality in Germany, however, did they ever come under my notice. *M. flava* I also saw there on two occasions, but there is only one example of this beautiful species in the Leipzig Museum, owing, I suppose, to the arid nature of the surrounding country being unsuited to its habits. The most beautiful series of the latter bird and *M. alba* that I ever saw are included in the collection of the Pastor Brehm, who resides in the little village of Reudendorf, about fourteen miles from Jena. This collection contains about 12,000 specimens, principally of the birds of Europe, but many also from South and North America and Africa. It is remarkable not only for the life-like manner in which the birds are set up, but also for the large number of examples of each species, showing the different sexes, at various ages and in all stages of plumage, an infinite improvement on our English cabinets, which usually possess at most three or four specimens of each bird only, quite insufficient to exhibit the principal varieties and changes of feather. Should any English ornithologist find himself by chance in the neighbourhood of the village I have mentioned, let him by all means avail himself of the opportunity; he will meet with a hearty welcome, and spend a few most profitable hours. I hope that Captain Watkins, whose very interesting article on the birds of Andalusia appears in the November number of the 'Zoologist' (Zool. 5312), will shortly send you some account of the different wagtails he observed in Spain, as it will be most interesting to ascertain whether these pied and white species, one or both, visit that country, for, so far as my knowledge extends, they do not proceed far south. I have ascertained that the great bustard (*Otis tarda*), formerly very numerous in this neighbourhood, is annually becoming scarcer, numbers being shot by the peasantry, who, since the year 1848, have been allowed much greater freedom in the use of fire-arms, to the great prejudice of birds, large and small, for to the German sportsman all is fair game, from a black grouse to a chaffinch. Once only had I the pleasure of seeing that rare and beautiful species, the goshawk (*Falco palumbarius*); it flew from a thicket of young firs, near the bank of the river Elsher, close on the borders of Saxony; I had an excellent view of it, as at first it flew rather low and at no great speed. Mr. Hoy speaks of it as breeding in this very locality, and gamekeepers and woodmen will tell you that it is still numerous; but I suspect that, as usual, buzzards and sparrowhawks are confounded by them with this scarce bird; at any rate, notwithstanding a diligent search, I never succeeded in meeting with it a second time.—Henry Smurthwaite; Leipzig, December 4, 1856.

Occurrence of the Whitetailed Eagle near Haslar.—A specimen of the whitetailed eagle (*Falco albicilla*), in immature plumage, was shot by a person in this neighbourhood on the 7th inst., and from whom I obtained it. Extreme length 3 feet 3 inches; expanse of wings from tip to tip 7 feet 5 inches; weight 8 lbs. It proved on examination to be a female, and I have little doubt was a bird of last year.—*Charles Barron; Haslar, January 11, 1857.*

The Black Redstart.—A winter seldom passes without specimens of *Sylvia tithys* coming to hand. It is singular enough that this bird almost always (indeed I do not recollect an instance to the contrary) appears after the autumnal migration, and most frequently in the dead winter months. A male bird, in very beautiful and adult plumage, was captured a few days since in this immediate neighbourhood, and from its very dark plumage must be a bird many years old: the sooty colour on the throat and neck is very pure; the other plumage of that tone of colour have the feathers with gray edges. I have never seen the adult bird in summer plumage, but I presume these gray margins disappear, leaving the general plumage black. From the partiality of this species to open rocky ground, instead of trees and thickets, it seems to show the connecting link between the true *Sylviadæ* and *Saxicolæ*.—*Edward Hearle Rodd; Penzance, December 20, 1856.*

The Greater Titmouse (Parus major).—When walking this afternoon in Summerhill Park, my son directed my attention to a sharp tapping sound proceeding apparently from one of the lofty oaks with which this beautiful domain abounds, and on going with cautious steps to the foot of one of them, I perceived, not a woodpecker or a nuthatch, as I had at first imagined it might be, but a tom tit, clinging to one of the topmost branches, whether hollow or not I had no means of ascertaining, but, judging from the loud vibrating sound, I should conclude it was. That the little creature was endeavouring, after the manner of the woodpeckers, to rouse and bring to the surface its insect-food, there can, I think, be little reason to doubt; but that so diminutive a bird,—or rather, one with so small a bill,—should have the power of making so far-sounding a noise is, I think, somewhat remarkable.—*Henry W. Hadfield; Tunbridge, January 1, 1857.*

Anecdote of the predacious propensity of the Hooded Crow.—In the course of one of those bitterly cold and snowy days which occurred at the commencement of the present month, an intelligent observer noticed a hooded crow (*Corvus cornix*) at Pakefield, near Lowestoft, flying in chase of a small bird, which, after repeatedly darting at it, the crow succeeded in capturing with its bill, whilst both birds were on the wing. The crow subsequently alighted to devour its prey, but, on the approach of the observer, again picked it up in its bill and flew away with it. I have full confidence in the accuracy of my informant, and think the circumstance worthy of record in the 'Zoologist.'—*J. H. Gurney; Catton, Norwich, December 20, 1856.*

Partridge and Hooded Crow.—A neighbour of mine, a few days ago, witnessed the chase of a partridge by a hooded crow: the former was so hard pressed and so terrified that it attempted to seek refuge in the bottom of a hedge at no great distance from the spectator. He went up to the place, and the poor partridge, apparently unburt, but so utterly terrified that it made no attempt to elude him (which a merely winged bird would have done, and successfully too), was picked up by him, while the disappointed crow still hovered near.—*J. C. Atkinson; Danby Parsonage, Grosmont, York.*

Partridge Swimming and Diving.—About three weeks since I fired a long shot at a partridge, which fell, with a wing broken near the extremity, but otherwise little, if at all, injured: it ran some distance, and sought concealment on the river bank. On approaching with my dog, in its attempt to escape me, it half leaped, half fell into the water. Once there it remained quiescent so long as a somewhat strong stream carried it down, but, on approaching a still part, caused by a partial regression of the current, it began to swim (I know no other word to describe the motion,—it was exactly that of the water bird swimming) towards the bank: it still escaped me once or twice: at last it extricated itself from the water, and was caught by my dog; he, however, put it down before I was quite in a position to lay hold of it, and it got into the water again. To prevent its getting out of my reach I struck it on the head with a small stick I had in my hand, and stunned it: a convulsive motion of both wings and legs ensued, sufficiently strong to send showers of water over me, and before I could seize it, still under the influence of these convulsive struggles, it dived completely, and was under water at least half a minute; and though the water was certainly not less than ten or twelve inches deep, it stirred up quantities of mud from the bottom, so as to make the surrounding water quite turbid. No wonder the dipper and waterhen are able to walk under water, when a partridge's unconscious struggles are so potent.—*Id.*

Note on Pied Pheasants.—The old pied pheasant was hatched in 1846, and was killed on the 22nd of December, 1856, therefore he must have been upwards of ten years old. He was never seen more than two or three hundred yards from the copse, of about twenty acres, in which he was bred. From 1847 to 1854, both years inclusive, a brood or two of pheasants, with pied chickens intermixed, appeared in the copse annually. Few of the pied birds arrived at maturity, and among these only two cocks. neither of the cocks was seen after their first year, as they strayed,—as did most of the hens,—and were killed on other farms in the neighbourhood. Not more than the old cock and two pied hens were ever seen in the same spring. The cock has been saved for the last year, and was shot unintentionally, in consequence of his being obscured by the thick branches of a Scotch fir tree: he was healthy and active to the last. I kept tame pheasants many years, and found that the males usually ceased to procreate at eight years, and the females at the same age, or a year earlier: exceptions, in each direction, occasionally occur in both sexes. A considerable proportion of the old hens, in a state of confinement, assume the plumage of the cock; the change commonly commencing the year after they cease laying.—*W. R. Rogers; Burchetts, Wisborough Green, January 3, 1857.**

Occurrence of Sabine's Snipe (Scolopax Sabini) in Norfolk.—This extremely rare species has just been added to the list of Norfolk birds, a specimen having been killed at Rainham, near Fakenham, on the 17th of October last. This bird was shot in a turnip-field by Martin T. Smith, Esq., M.P., and is now, I understand, in the possession of his son, a member of Trinity College, Cambridge, who has had it preserved by Mr. Baker, of that town. I believe not above five or six specimens of this rare snipe have been met with in England, although more have been obtained in Ireland; but the most curious fact respecting it is referred to by Mr. Yarrell, who says, "Singular as it may appear, this species does not seem yet to have fallen into

* Communicated by Mr. F. Smith, of the British Museum.

the hands of any naturalist out of the British islands."—*H. Stevenson; Norwich, December 23, 1856.*

Note on the Osteology of Cariama.—The sternum of *Cariama cristata* agrees better with that of the common heron and with that of the whole of the *Ardeinæ* than with any other group, though the keel has not such a perfect sweep as it has in the heron, in which bird it forms the segment of a circle. The notches in the lower part of the sternum are similar, but are of greater extent in the *Cariama* than in the heron; the interpectoral ridge observes nearly the same direction in both; but the coracoid grooves in the former are separated by the projecting process of the sternum, whereas in the latter they are confluent. The furculum in *Cariama* bears some resemblance to that of the heron, but, viewing it in profile, we observe that the outline of the former is concave, while in the latter it is convex,—in other words, has a considerable arch outwards. From a front view we see its superior strength and development in the heron where the furculum and keel of the sternum are in close contact at their apices, and are held together by a firm ligamentous union, just as in *Leptoptilus*, while in *Cariama* it has simply a membranous attachment to the sternum, the points being separate. It may be as well to remark here that the intimate attachment of the furculum to the keel of the sternum does not exist, to the same extent, in all the herons, for in species of the subgenus *Herodias*, although the union is similar, it is less firm, and in the subgenus *Ardetta* the form of the furculum, and its mode of attachment to the sternum agrees very closely with the same in *Cariama*; but there seem to be considerable differences in the *Ardeinæ* in that respect, for in *Scopus* the furculum is much stouter in proportion than in any other of the group with which I am acquainted, has a considerable anterior curve, and is distant from the sternum at its apex. The coracoids and scapulars in *Cariama* differ from those of the heron; but it is here unnecessary to enter into their detail. The pelvis of *Cariama* agrees pretty well with that of the heron, but differs entirely from that of *Crax*, with which it has been associated by Swainson: it will be here sufficient to mention one important difference. In *Crax* the ilii, as is usual in birds, meet over, unite and become blended with the spinous processes of the sacrum at their upper part, but open lower down, forming on each side the spinous processes of the sacrum a foramen for the passage of tendons, &c.; in *Cariama* the ilii are quite closed over without openings, the same as in the heron.—*Charles Barron; Haslar Hospital, January 15, 1857.*

Occurrence of the Canada Goose (Anser canadensis) at Weymouth.—I beg to record the occurrence of seven of these beautiful birds in Portland Roads, on the 29th of November last. They were shot by W. H. Weston, Esq., of Weymouth, and the finest pair have been added to his valuable collection of British water birds, most of which have been killed in this county of Dorset. I have carefully examined them, and have no hesitation in asserting them to be wild specimens. They were exceedingly wary and difficult of approach, until one of their number was disabled, when the others returned and kept in company with the wounded bird until the whole of them were killed. One of the birds turned the scale at 12 lbs; six of the birds weighed together 68½ lbs. The specimen Mr. Weston gave me was unfortunately too much damaged to be preserved; I therefore had it cooked, and can assure your readers it was excellent, possessing the true wild-duck flavour, and very different from the insipid masses of fat so characteristic of our farm-yard geese; a cross between the two birds would greatly improve our present breed of geese.—*William Thompson; Weymouth, December 21, 1856.*

Occurrence of the Egyptian Goose (Anser ægyptiacus) at Weymouth.—A magnificent specimen of this handsome bird was shot on the 18th of December, 1856, in Lodmoor Marsh, situated on the coast, at about half a mile from Weymouth: this marsh is of large extent, and is separated from Weymouth Bay by a narrow bank of shingle and a turnpike-road; the marsh is cut up by a number of lakes, and is often covered by the water from the high lands; the *Salicornia herbacea* grows in profusion in parts, and this forms a favourite food with both wigeon and teal, especially the latter. The Egyptian goose, the subject of this paper, had been noticed in Lodmoor during several successive nights, coming to feed at the same hour as the other wild fowl; it had been constantly shot at, but escaped. The bird flies very fast, and does not rise like other wild fowl, but towers to some height, and then flies quickly off, in the manner of a pheasant, and this is the reason given by the gunners for its having so long escaped, as, in consequence of the bird towering, they shot under it. Joseph Gillingham, the man who shot it, stripped himself, in order that he might better follow it across the lakes. The bird is an old male, in good plumage: it has been purchased by Mr. Weston for his collection, and is now in the hands of a well-known taxidermist of this place (Richard Rolls) for preservation.—*Id.*

Occurrence of the Eared Grebe and Night Heron in Ireland.—An eared grebe (*Podiceps auritus*) was shot on the coast, near Dundalk, Ireland, on the 13th instant; it is either an adult female or a young bird, and has very distinctly the upturned bill which characterizes the species. In the month of January, 1855, a night heron (*Nycticorax ardeola*), in immature plumage, was killed in the same part of the country, at Inniskeen, County of Monaghan. These notices may perhaps be thought worthy of insertion in the 'Zoologist.'—*Clermont; Ravensdale Park, Flurry-bridge, Ireland, December 23, 1856.*

Occurrence of the Forktailed Petrel (Thalassidroma Leachii) near Helston.—A specimen of this petrel was captured near Helston a few days since, after a gale from the south and south-west of longer continuance than has been remembered for many years.—*Edward Hearle Rodd; Penzance, December 20, 1856.*

Occurrence of the Forktailed Petrel (Thalassidroma Leachii) at Weymouth.—Three specimens of this petrel have been shown me in the flesh during the early part of this month: the weather has been very bad, with heavy gales from the south-west. This species has already occurred to me here, in the winter of 1852, and other individuals have been killed, of which I possess only a general notice.—*William Thompson; Weymouth, December 21, 1856.*

Occurrence of the Forktailed Petrel near Tunbridge.—I have lately seen, at a bird-stuffer's in this town, a very fair specimen of this petrel, which was, I am informed, found dead some three or four years since at Peckham, in this neighbourhood. Respecting the petrel, I observe that Mr. E. N. Bloomfield mentions (Zool. 5365) that, several years ago, a storm petrel was found dead at Great Glemham, in the county of Suffolk, a servant boy having previously informed him that "he had seen a swallow fly out of the pond." Mr. Bloomfield thereon remarks, "Whether it is likely that the accounts of the emergence of swallows from the water, in the spring, have arisen from like causes, I am not prepared to say; but I mention this incident, for which I can vouch, as tending to throw some light upon a subject which appears to have attracted considerable interest." I do not exactly see in what way this occurrence can be thought to elucidate this much-vexed question: that an ignorant boy should have mistaken a petrel for a swallow is likely enough, particularly if it

happened to be Leach's, which, having a forked tail, bears a striking resemblance to the chimney swallow. Moreover, petrels are very rarely met with far inland, and when so found, are generally in a dying or exhausted state, so I think it not only unlikely, but highly improbable, that it should have given rise, as suggested by Mr. Bloomfield, to that most absurd notion entertained even by many of the most eminent and scientific naturalists of the last century, with regard to the supposed periodical submersion of the swallow tribe. What peculiarity in their habits may originally have led to this and other ridiculous speculations and fabulous tales, handed down to us by so many of the old authors, I will not undertake to decide; at the same time, I must observe, although I have remarked it before in my notes on the migration of swallows, that they generally, if not invariably, frequent, on their first arrival, the most sheltered and secluded ponds and lakes, where insects, at that early season, are alone to be found in sufficient abundance. I have also noticed their peculiar habit of crowding together on twigs and brambles, when wet or fatigued, so think it not unlikely that, in their awkward attempts to secure a footing, some may get accidentally immersed, when an ignorant lad or peasant might, under the circumstances, be excused for thinking that the poor half-drowned swallows he had seen clinging to the willows or other aquatic trees, had one and all risen from the depths below!—*Henry W. Hadfield; Tunbridge, January 6, 1857.*

Fish pumped out of a dark Well.—On Saturday, August 9, 1856, as my porter was pumping water from a well, situated under and between the foundation walls of my house, a small living fish passed up with the water; it did not long survive, being injured in passing through the pipes and valves of the pump. The well is perfectly in the dark and unconnected with any pure stream or pond from which the fish could have passed into it. The water of the well is merely surface-water, is of a yellow colour, froths much on agitation, and contains organic matter and ammonia. It is possible the ovum of the fish may have passed through some small opening communicating with the well from some neighbouring drain, through which the overflow from a cistern supplied with Thames water may pass; but this I am unable to trace, and the well appears to be far away from any such source. Leaving the mystery of the fish's origin out of the question, the fact is remarkable from the circumstance of its existence in such a situation, quite out of reach of some of the most important of those influences which regulate the healthy development of that class of animals. I know nothing of fishes, but am inclined to think this is a dace or bleak; it is about two inches in length.—*Henry Deane; Clapham Common, December 4, 1856.*

Two forms of Teeth in Sharks.—As the forms of the teeth of sharks are always of importance in identifying the fossil remains of the family, you may perhaps think this worth inserting. In examining the jaws of two large female specimens of the common tope (*Guleus vulgaris*, Cuv.), I found that, besides the usual form of teeth, viz. those obliquely triangular, and denticulated of the outer edge alone (see fig. Yarr. ii. p. 510), there is a second distinct form: these are much smaller, very concave, the points being much curved inwards, not oblique, the apex being perpendicular to the centre of the base, and five to seven strong denticulations on either side; they formed a small outer row. I also observed a character not mentioned by either

Yarrell or Jenyns,—a shallow furrow ran along the mesial line of the back, from the second dorsal fin to the origin of the caudal.—*Lester Lester ; Langton Maltravers, December 10, 1856.*

Occurrence of the Short Sun-fish on the Coast of Galway.—On the 3rd of September last, about three miles out at sea from Roundstone, County Galway, Ireland, I met with a specimen of the short sun-fish (*Orthogoriscus mola*), of which I obtained a good view. The fish, which apparently measured about four feet across, was floating at the surface on its side, looking more dead than alive, and my attention was directed to the spot by a large gull, which hovered above, greedily gazing upon the ample space of white belly there displayed. I fired a close shot at the sun-fish, but, owing to the high sea then running, it sunk before I was able to secure it with a gaff. One of my boatmen at once pronounced the fish a sun-fish; he also stated that he had seen many of them in that neighbourhood during his lifetime, and he afterwards drew upon the sand so good a representation of the short sun-fish as to preclude the possibility of a mistake about the species. In Yarrell's 'British Fishes,' I find the following note:—"The sun-fish of the Irish coast, particularly on the west coast, is the basking shark." On the Galway coast the basking shark is certainly known by the name of sun-fish, but it is now evident that, besides the basking shark, one at least of the true sun-fishes frequents the west coast of Ireland.—*Henry Evans ; Darley Abbey, Derby, December 17, 1856.*

A Schoolboy's Amusement in Southey's Days.—One very odd amusement, which I never saw or heard of elsewhere, was greatly in vogue at this school. It was performed with snail shells, by placing them against each other, point to point, and pressing till the one was broken in, or sometimes both. This was called conquering; and the shell which remained unhurt acquired esteem and value in proportion to the number over which it had triumphed, an accurate account being kept. A great conqueror was prodigiously prized and coveted, so much so, indeed, that two of this description would seldom have been brought to contest the palm if both possessors had not been goaded to it by reproaches and taunts. The victor had the number of his opponents added to its own; thus when one conqueror of fifty conquered another which had been as often victorious, it became conqueror of an hundred and one. Yet even in this, reputation was sometimes obtained upon false pretences. I found a boy one day, who had fallen in with a great number of young snails, so recently hatched that the shells were still transparent, and he was besmearing his fingers by crushing these poor creatures one after another against his conqueror, counting away with the greatest satisfaction at his work. He was a good-natured boy, so that I, who had been bred up to have a sense of humanity, ventured to express some compassion for the snails, and to suggest that he might as well count them and lay them aside unhurt. He hesitated, and seemed inclined to assent, till it struck him as a point of honour or of conscience, and then he resolutely said no! that would not do, for he could not then fairly say he had conquered them. There is a surprising difference of strength in these shells, and that not depending upon the size or species, I mean whether yellow, brown or striped. It might partly be estimated by the appearance of

the point or top (I do not know what better term to use); the strong ones were usually clear and glossy there, and white if the shell were of the large, coarse, mottled, brown kind. The top was then said to be petrified; and a good conqueror of this description would triumph for weeks or months. I remember that one of the greatest heroes bore evident marks of having once been conquered. It had been thrown away in some lucky situation, where the poor tenant had leisure to repair his habitation, or rather where the restorative power of Nature repaired it for him, and the wall was thus made stronger than it had been before the breach, by an arch of new masonry below. But in general I should think the resisting power of the shell depended upon the geometrical nicety of its form.—*Life and Correspondence of Dr. Southey.*

To Entomologists, Botanists and others.—It is with feelings of confidence that we call your attention to the following sad case of affliction. John Hemmings, of 2, Bedford Buildings, Brighton, has for a great number of years been a most indefatigable student of Natural History. Although entirely a self-taught man, he has by great perseverance made himself most efficient in Lepidoptera, Coleoptera, &c., and has attained a praiseworthy rank amongst botanists by his researches relative to British mosses and other tribes of plants. Unfortunately he has, by severe study, overtasked his brain; his mind has quite given way, and he now lies stretched on a bed of sickness, wholly unconscious, and obliged to be constantly attended by two men. To share his affliction, he has a wife and seven small children, who have hitherto been dependant on him for support. Hemmings has throughout his life been a thoroughly steady man, and has worked hard at his trade, as a painter; but the requirements of his numerous family have prevented his accumulation of any money. Having been appointed a Committee for that purpose, we take the liberty of asking your sympathy under these painful circumstances, and to beg any little pecuniary assistance it may be in your power to render to an afflicted but worthy individual and his distressed wife and family.

Thomas Thorncroft, 87, North Lane,
H. Cooke, 8, Pelham Terrace,
Samuel Howse, 82, St. James' Street, } Committee.

The above is forwarded to you under the impression that you have known Hemmings as a correspondent.

[Poor Hemmings is since dead; but his widow and small family are much in want of the charity solicited by the gentlemen who have prepared this address.—*E. N.*]

Testimonial to the Rev. Joseph Greene, M.A.—It is proposed to present to the Rev. Joseph Greene, M.A., a silver trowel, as a small mark of gratitude and esteem for his very valuable and detailed information on the subject of 'Pupa Digging' (Zool. 5382), and for the highly important service he has by this means rendered to the Science of Entomology. All gentlemen of the net who sincerely desire to join in the acknowledgment of the same are requested to communicate their intentions to the Rev. J. Johnson, Denby Parsonage, near Huddersfield, as soon as possible.—*The Substitute.*

On Pupa Raking.—In reply to the Rev. J. Greene's question (Zool. 5396), "What is the meaning of the term raking," as the term raking originated with me, I am perhaps the most likely person to explain its meaning. "Raking" or "raking banks," for larva, pupa or imago, is a plan I adopt in districts where pupa digging is

exhausted or impracticable, and is unquestionably the most successful method of obtaining good specimens of the perfect insect which I know. Find an overhanging bank of any sort, a hole where a tree has been blown down, round the edges of a quarry, a landslip on a mountain-face or slope, however small or large, never mind how barren the place is, banks on sand-hills, and particularly banks in lanes caused by cuttings where the soil or gravel has fallen away a little from the vegetation. Having found any such places, first look carefully under the overhanging grass, and, lifting it gently with the left hand, pin and kill the moths and butterflies you find there; peer well into the crevices before using your walking-stick: when you have got all you can see, and also when you cannot see anything, you must draw the point of your stick across the grass-roots, &c., hanging under the bank, and the chances are greatly in your favour that one or more Noctuæ fly out, or, what is more general, roll down the bank, sometimes perfectly quiet, at others fluttering very much as they fall; in any case have a small net ready. Repeat this several times, and if windy or wet shake the place well. To follow "bank-raking" requires both patience and perseverance; for, like pupa digging, you do not find nuggets in every hole; and it is no joke walking on sand-banks, where your progress is like lawyers journeying heavenwards; but it has this advantage,—it can be most advantageously practised when pupa hunting is rather out of season, and you get the insects as good as bred without further trouble. Where banks are scarce, as on pasture-lands, I carry small bundles of grass or hay, peg them down, and shake them whenever I visit the ground, and find it answer my purpose admirably. It is true this process produces unlimited quantities of common moths and beetles; but sometimes you get a prize, either for your own cabinet, or, what is quite as pleasing, for a friend. Never pass a "scarecrow," that is, a coat and hat fixed in a field to frighten birds, without ascertaining what insect he has upon him; be particular about his hat, and shake his coat well. This is called "passing the doctor," and is another term which may not be understood in the South. It is a successful plan to take *Plusias* and the genus *Heliothis*, &c.—*C. S. Gregson; Edge Lane, Stanley, January, 1857.*

Ravages of Caterpillars.—In a former volume (Zool. 4546) I gave some account of the injury done to the gardens of this village during the summers of 1853 and 1854. My observations were continued as far as practicable in the following season, and I hoped to have communicated the result long ago, but have been disappointed hitherto. However, the completion of the narrative, late as it has been deferred, may not be altogether unacceptable. My first note upon the subject was taken on or about the 21st of September, 1855, at which period, in two gardens to which my attention was particularly devoted, all plants of the cabbage tribe were devoured, or nearly so, with the exception of the large ribs of the leaves. But this food not sufficing for the hosts of the vermin, they had attacked the turnips, the tops of which were rapidly disappearing. Separated from the gardens only by a wall and a path, was a field of rape, upon the first-sown portion of the contiguous side of which, where alone I could pursue my investigations, the caterpillars were most abundant, and the white butterflies persevered in multiplying their broods to a late date. Very many of the larvæ were now fully fed, and were travelling away as usual previous to undergoing their next change. Upon a considerable length of wall, on the face of which this change had heretofore taken place very extensively, I did not on this occasion find more than one, if one, chrysalis of the mottled caterpillar, though many of other sorts, while, of the former, instances were numerous of those which had been victimised by ichneumon

flies. Having been confined to the house, my next observation was made on the 27th of September, when the number of caterpillars travelling and still feeding was much diminished, though of the latter many of different ages were still to be seen. Some preceding days had been cold. In a wide space closely examined I found only three chrysalides of the mottled caterpillar, but several of smaller kinds. On the 1st of October I was informed that the turnips in one particular garden of those under my notice had been greatly infested by a small black caterpillar, of which I that day saw a few elsewhere. These were, I believe, the larvæ of a *Tipula*, and certainly the same with those the performances of which I have before described (*Zool.* 336—misprinted 326 at p. 4548), but, in the instances now noticed, they appeared to devour only the tender parts of the leaves, whereas in the former case the entire tops of the turnips were consumed. My last note is dated October 8th (my own hybernation having commenced on the following day), when some few caterpillars were still in motion upon their usual track, possibly a dozen and a half at most, the rape in the field being clear of them, so far as examined by me. In the preceding autumn the insects were numerous later than this day, but then the weather had been drier, in 1855 rain having occasionally fallen very heavily, though not accompanied by much cold. The result of what observations I was able to make in 1855 is, that caterpillars were more numerous in that season than they had been in the preceding. I have related (*Zool.* 4546) that in 1854, when their next change was approaching, they ascended the walls of a large house in incredible swarms; the irruption occurred again in the ensuing year, when, however, more effectual preparations were made to meet the invaders. *Ichneumon* flies abounded in 1854, being then, so far as noticed, only of one species, and that very small; whereas, in 1855, not only were they in much greater number, but of several sizes. A friend, who resides in the very focus of the late visitation, informs me that, of the multitude of caterpillars he crushed, five in every six were full of maggots. For my own part, I consider the proportion of fly-blown insects was even much larger, and the activity of the *ichneumons* in pursuing their vocation was remarkable, they being constantly in attendance wherever their proposed victims were to be found. Once, upon the coping of a low wall,—a favourite track of the caterpillars,—I watched what I believe, from the spike at the end of the abdomen, to have been a large *ichneumon* fly,—reddish black with red wings,—walk up to a “travelling” caterpillar, pass its long antennæ gently over the other’s back for a few seconds, as if in observation, and then turn away. The smallest of the flies, which appeared to be by far the most abundant, were continually visible around and on the caterpillars, especially when they became stationary for transformation, and, in many instances, even upon the chrysalides, their presence evidently causing extreme annoyance, since both the unchanged and the changed were incessantly moving their heads and tails uneasily backwards and forwards, as if in vain endeavours to dislodge the enemy; the consequence being, as I have reason to suppose, that, in one case at least, the chrysalis broke from its moorings and fell to the ground. I have stated before (*Zool.* 4548) that I estimated the little maggots I had seen emerging from the body of a single caterpillar “at two dozens at least.” I am inclined now to believe the number to have been still more considerable. Also, while in 1854 I supposed (*Zool.* 4548) the small green caterpillars to have been untouched by the *ichneumon* flies, I strongly suspect they did not escape equally well in 1855. Besides the hostility of their natural parasites, the cabbage caterpillars were, in 1855, exposed to some other destructive influence. My note of October 8th, reminds me how many discoloured (brown) car-

cases I saw, where the insects, not fly-blown, had died without changing, and the larger portion of those then noticed which had changed (they likewise being much discoloured) were probably diseased, the effect perhaps of the heavy showers. In addition to the species already mentioned I observed, in the autumn of last year, several varieties of "looper" caterpillars, and a very few, perhaps two or three, larger larvæ, possibly immature cockchaffer grubs, all evidently retiring from the same spot where others of their race had been so actively employed. From the preceding account it may be anticipated that, during the summer of the present year, white butterflies, and consequently their progeny, did not appear in unusual multitudes where previously they had proved such a pest. It must, however, be added, that the occupants of two adjoining gardens, warned by the total loss of their crops in 1854 and 1855, varied their system of cultivation in 1856, and the contiguous field did not of course contain rape again this year.—*Arthur Hussey; Rottingdean, December 3, 1856.*

Mr. Stainton's Nomenclature in the 'Manual.'—In p. 171 of the 'Manual of British Butterflies and Moths,' Mr. Stainton informed us that, in his arrangement of the Noctuina, he intended to adopt that of M. Guenée, in his great work on the Noctélites of the whole world. Now I, in common with, I believe, most British entomologists, look up to Mr. H. Doubleday as our Mentor, and as I happen to know that it is the opinion of Mr. Doubleday that all other nomenclatures must bow before that of M. Guenée, it was with no small delight that I hailed Mr. Stainton's announcement. "At last," said I to myself, "there is a chance of our having a nomenclature, in which most, if not all, entomologists will coincide. At last we have got hold of a thread which will lead us out of that seemingly inextricable labyrinth in which, as regards the nomenclature of our British Lepidoptera, we have been so long involved." Judge, then of my surprise and annoyance when, upon comparing the 'Manual' with M. Guenée's admirable work, I found that in no less than seven instances Mr. Stainton has already, in direct defiance of his preliminary announcement, departed from the nomenclature of M. Guenée:—

1. *Acronycta Salicis*, *Curt.*, appears as a distinct species, though M. Guenée expressly states that, in his opinion, it is a variety of *A. Menyanthidis*, *Esp.*
2. *Nonagria paludicola*, *Hüb.*, of Guenée appears as *N. geminipuncta*, *Haw.*
3. *Nonagria lutosa*, *Hüb.*, of Guenée, appears as *N. crassicornis*, *Haw.*
4. *Hydræcia Petasitis*, *Doub.*, retains its old name, though M. Guenée distinctly declares it to be only a variety of *H. vindelicæ*, *Frey.*
5. *Miana erratricula*, *Hüb.*, of Guenée, appears as *M. literosa*, *Haw.*
6. *Pachnobia carnica*, *Heer.*, of Guenée, appears as *P. alpina*, of anybody you like.
7. *Xanthia silago*, *Hüb.*, is styled *X. flavago*, *Fab.*, apparently for no reason whatever, except that it may now and then personate *Gortyna flavago*, *W. V.*

Now I have always supposed that when a person adopts a thing, he does so for better or worse, and it seems to me that Mr. Stainton, after distinctly announcing his intention of adopting M. Guenée's arrangement of the Noctuina, is bound to take it exactly as it stands, and is wholly unjustified in introducing emendations of his own. Surely the world-wide reputation and vast experience of M. Guenée, backed as it is by so incontrovertible an authority as Mr. Doubleday, ought to be sufficient to prevent

Mr. Stainton from tinkering up anything which comes out of such a workshop. If he is to continue this system, the value of the 'Manual' as a guide to nomenclature is wholly and entirely lost. I had hoped that, after the terrible revolution which Mr. Stainton caused among the Bombyces, and the ruthless manner in which he tore asunder species hitherto united by the tenderest ties, he would have treated the Noctuidina in a more considerate manner, but I fear that he is one of those persons who experience a sort of piquant enjoyment in flinging the apple of discord around them. I am, however, much comforted by hearing from my most worthy friend Mr. C. R. Bree that he is shortly about to publish a list of the British Noctuidina, in strict accordance with the arrangement of M. Guenée.—*H. Harpur Crewe; Stowmarket, Suffolk, January 7, 1857.*

Larvæ of Notodonta dictæa, &c.—At p. 113 of the 'Substitute' Mr. Greene alludes to the statement of Mr. Cartmel, at p. 5, where Mr. C. tells us that he once took fifty brown and green larvæ of *Notodonta dictæa* off birch. Now will Mr. Cartmel forgive me if I ask him, not only whether he is quite sure the larvæ were really *N. dictæa*, but also whether he is quite sure that it actually was birch upon which he found and fed them? I have been in the habit of taking the larva of *N. dictæa* for the last twelve or fourteen years, and have had some little experience in its habits. I have taken it upon, I think, every species of poplar which grows in this country, but never in one single instance on birch. I never met with or heard of any entomologist, British or Continental, with the exception of Mr. Cartmel, who had ever taken or seen it upon that tree, and so firmly persuaded am I that it never feeds there, that I should consider it nothing less than a miracle were I to beat or find a larva of *N. dictæa* on birch. Now there is a species of aspen (I am not quite sure which, so will not hazard a botanical mistake), which, in its young sucker state, so closely resembles a rank growth of birch, particularly upon a dry peaty soil, that I am not at all surprised that a moderate botanist should mistake one for the other: I was myself taken in by it, some years since, upon one of our Derbyshire heaths, when I did not know so much of Botany as I do now, and upon this very aspen, which I at first took to be birch, I found nearly eighty eggs of *N. dictæa*, besides larvæ, both of *N. dictæa* and *P. palpina*. Amongst these small aspens there are a number of genuine birches, but though I have beaten these latter again and again I never saw a single larva of *N. dictæa*, though I have not unfrequently beaten that of *N. dromedarius*, and several times *N. dictæoides*. Now I cannot help thinking that Mr. Cartmel has mistaken these young aspen suckers for birch. It is only in quite their young state that they assume this birch-like appearance: in a year or two they become genuine aspens.—*Id.; January 1, 1857.*

Larva and Economy of Taniocampa populeti.—The larva of this species seems to be but little known: it feeds upon the aspen and probably upon other species of poplar, residing between two leaves united by a web: it is very transparent, and always colourless, a sort of yellowish white, with a black head. Many years since I reared a brood from the eggs, and sent larvæ to Mr. Curtis, who, I believe, made a drawing of one of them. I have since frequently found them on tall aspens in our woods, but the greater part are infested with the larvæ of ichneumons.—*Henry Doubleday; Epping, January 13, 1857.*

Eupithecia helveticaria in Britain.—Mr. Logan kindly gave me a pair of *Eupithecia*, which he bred from bright green larvæ found upon juniper. I sent them to my friend M. Guenée, and he informs me that it is the *Eupithecia helveticaria* of

Boisduval, discovered by Anderegg in Switzerland, upon *Juniperus Sabina*, and new to this country.—*Id.*

Tortrix latiorana and *Depressaria libanotidella*.—In Mr. Stainton's 'Annual' for the present year a *Tortrix* is described, under the name of *latiorana*, as a species new to Britain. Ten years since I sent specimens of this insect to M. Guenée, and he agreed with me in considering it a pale variety of *Tortrix spectrana*, a variable species, the larva of which feeds upon a great variety of plants, often upon *Ranunculus sceleratus*. *Depressaria libanotidella* is also given in the 'Annual' as British, on the authority of an insect taken by Mr. Turner. I had this specimen in my possession for some weeks, and it appeared to me to be only a slight variety of *D. badiella*. Mr. Stainton's description applies to the true *libanotidella*. Mr. Turner's insect does not at all resemble the specimens of this species kindly given to me by Zeller.—*Id.*

Note on Cheimatobia autumnaria.—There seems to be a prevalent opinion that this insect does not occur in the South of England; I, however, can affirm the contrary, having taken it at Marlow, in Buckinghamshire, at the end of October or early in November, 1854. It accompanied *C. dilutaria*, of which there was great abundance.—*J. F. Brockholes*; 16, *Egerton Terrace, Birkenhead*.

Early appearance of Phigalia pilosaria.—A singular male variety of this species was taken on a beech tree near Manchester on the 2nd of November, being at least three months earlier than usual. I hope no advantage will be taken of this by the "double-brooded agitators."—*Robert S. Edleston*; *Bowdon, January 10, 1857*.

Larva of Nepticula subbimaculella.—When collecting mines of *Nepticulæ* last autumn I observed the larva of the above-named species to be somewhat gregarious; in one blotch-mine were five larvæ, occasionally four and three, repeatedly two. I have not observed the same to occur in any other species. Mr. Stainton, in his 'Natural History of the Tineina,' p. 268, remarks upon the green appearance of the leaf in autumn when tenanted by this larva; the same appears in most autumn leaves, whether tenanted by *Nepticula* or *Lithocolletis*; it is very conspicuous in mountain ash when tenanted by *L. Aucupariella*.—*Id.*

On the Habitats and Food-plants of several of the British Pterophoridae.—I do not intend in this paper to give a description of all the species in this interesting, but much neglected genus, but of only such as have fallen under my own observation. Most of the larvæ are green and hairy, and it appears they prefer feeding under the leaves of their food-plants, seldom appearing on the upper surface.

P. similidactylus I discovered last season, feeding on the under side of the leaves of common wormwood (*Artemisia Absinthium*): its presence is easily detected by the white appearance of the leaves: the larva is light green; full-fed in June; imago out in July: it is very local, and far from common. The name *similidactylus* is not found in Stainton's works, but for what reason I do not know.

P. phæodactylus. This species is also local. Larva green; feeding on the under side of the leaves of birds'-foot trefoil (*Lotus corniculatus*) in June; imago out in July.

P. lithodactylus. This species has become common during the last four years, from its food-plant being discovered to be the common fleabane (*Inula dysenterica*). Larva green; feeding on the under side of the leaves in June; imago out in July.

P. microdactylus. I took a pupa of this in the stem of the common hemp agrimony (*Eupatorium cannabinum*), where it appeared the larva had fed inside the

stem: this is quite at variance with the other species of this genus. The pupa was a dark red, and totally different from any of the Plume tribe I had ever seen. I am quite certain its food-plant is the Eupatorium: I have never taken the insect but where the plant grows.

P. galactodactylus. The larva of this species is common. The perfect insect is rarely taken; its food-plant is the common burdock; found feeding on the under side of the leaves in May; locality woods. The larva is easily detected by the holes in the leaves of the plant.

P. baliodactylus. Larva green; food-plant *Ononis reclinata*. It is a local species. Larva in June; imago in July. Found on the Kentish coast.

P. tetradactylus. This species is found with the preceding, and, I expect, feeds on the same plant, but I have not yet found the larva.

P. pentadactylus. This is a very common species. Larva green; food-plant *Convolvulus arvensis*, but may sometimes be taken on other plants.—*H. J. Harding*; 1, York Street, Church Street, Shoreditch.

Description of an Cestrus new to Britain.—The under-mentioned species was captured by Mr. James Cooper in Scotland, in 1854:—

CISTRUS BIANGULATUS, Cooke.

Male. Body very stout; head clothed above with black hairs, beneath and behind with red hairs; antennæ black, basal half of the arista red; thorax black, clothed in front with tawny hairs, and yellowish white hairs at the sides; scutellum with tawny hairs, and yellowish white on each side. Wings limpid, clouded with brown along the veins, which are strongly indicated; præbrachial vein with a sharply-defined and very slightly obtuse angle placed beyond the discal transverse, and another at nearly one-third the distance thence to the margin—at the first angle a branch is emitted; discal transverse parted by about its length from the clouded præbrachial transverse, and less than its length from the border; alulæ whitish, bordered with brown. Abdomen black, with yellowish white hairs at the tip. Legs black; tarsi ferruginous at the base of each joint. Length 8 lines; expanse 14 lines.—*Benjamin Cooke*; 49, Hardwick Place, Manchester.

A Systematic List of Coleoptera found in the Vicinity of Alverstoke, South Hants. By ARTHUR ADAMS, Esq., F.L.S., Surgeon of H.M. Surveying Ship 'Actæon;' and WILLIAM BALFOUR BAIKIE, M.D., F.R.G.S., Haslar Hospital.

(Continued from page 5302).

24. *Harpalus, Latr.*

H. ruficornis, Fabr. Extremely common; in fields, under clods, stones and débris, under logs, &c.

H. æneus, Fabr. Very common; in fields, &c.

H. honestus, *Dufts.* *H. rufipalpis*, *H. atrocæruleus*, *H. annulicornis*, *H. notatus*, *H. obscuricornis*, *H. nitidus*, *H. maculicornis*, *Steph.* Not frequent; under stones along Stokes Bay.

H. attenuatus, *Steph.* *H. consentaneus*, *Dej.*, *H. picilabris*, *Steph.* Not common; under stones in fields.

H. neglectus, *Dej.* *Actephilus pumilus*, *Steph.* Rare; under stones, usually near the sea.

H. fulvipes, *Fabr.* *H. limbatus*, *Dufts.*, *Steph.*, *H. acuminatus*, *H. lateralis*, *Steph.* Rather rare; under stones.

H. rubripes, *Dufts.*, *Steph.* *H. azureus*, *H. chloropterus*, *H. marginellus*, *H. fulvipes*, *H. subsinuatus*, *H. lentus*, *H. ignarus*, *H. Patisii*, *H. nigro-cæruleus*, *H. punctiger*, *Steph.* Not common; under stones in fields near the sea.

H. depressus, *Dufts.*, *Steph.* *H. semiviolaceus*, *Dej.*, *H. melampus*, *H. thoracicus*, *Steph.* Not abundant; near the sea-shore.

H. tardus, *Panz.* *H. rufimanus*, *H. fuliginosus*, *H. latus*, *Steph.* Common; under stones in sandy places about Stokes Bay.

25. *Stenolophus*, *Meg.*

S. Skrimshiranus, *Steph.* Taken in considerable abundance under loose earth along a damp ditch at Grange, and also at Chark Common.

S. respertinus, *Ill.* Found with *S. Skrimshiranus*, but rather less abundantly.

26. *Acupalpus*, *Latr.* *Trechus*, *Steph.*

A. dorsalis, *Fabr.*, *Steph.* *A. parvulus*, *Steph.* Rare; only one example taken.

A. meridianus, *Linn.*, *Steph.* *A. suturalis*, *Steph.* Common; under small stones.

A. luridus, *Dej.* *A. flavicollis*, *A. nitidus*, *Steph.* Common; under soil of damp ditches at Grange.

27. *Bradycellus*, *Erich.* *Trechus*, *Steph.*

B. fulvus, *Marsh.*, *Steph.* *B. pallidus*, *B. brunnipes*, *Steph.* Common; along hedgebanks.

28. *Trechus*, *Clairv.*

T. minutus, *Fabr.*, *Steph.* *T. aquaticus*, *T. tristis*, *T. lævis*, *T. fuscipennis*, *Steph.* Very common; under clods and stones in fields, and under heaps of dried sea-weed on Southsea Common.

6. Fam. BEMBIDIIDÆ, Steph.

1. *Bembidium*, Latr. (*Tachypus*, Meg.)

B. flavipes, Linn., Steph. *B. impressum*, Steph. In moss along hedgerows; common.

B. velox, Linn., *B. punctatulum*, Drap. *Tachypus striatus* and *T. chlorophanus*, Steph. (Leja, Meg.) Among damp grass in hedge-banks at Privet.

B. lampros, Herbst. *Trachypus properans*, *T. celer*, *T. acutus*, *T. chaldeus*, *T. orichalceus*, *Lopha pulchella*, Steph. (*Lopha*, Meg.) Very common; ubiquitous and of extreme activity.

B. quadriguttatum, Fabr. Under stones along banks of streams near Stokes Bay; tolerably abundant.

B. quadrimaculatum, Linn. (*Peryphus*, Meg.) Found with the preceding species, but less abundantly.

B. femoratum, Sturm., Steph. *B. maritimum*, Steph. Common; along muddy banks of ditches.

B. littorale, Oliv., Steph. *B. rupestre*, Gyll., *B. ustulatum*, Jacq., Duv., *B. tetraspilotum*, *B. elegans*, Steph. (*Notaphus*, Meg.) Very abundant; under stones along the sea-shore.

B. ustulatum, Linn., Steph. *B. nebulosum*, *B. bifasciatum*, *B. obliquum*, Steph. (*Philocthus*, Steph.) Plentiful; along muddy banks of ditches, and under stones in damp spots.

B. guttula, Fabr., Steph. *B. binotatum*, *B. vittatum*, *B. hæmorrhorum*. (*Tachys*, Ziegl.) Tolerably common; along damp banks.

B. scutellare, Germ., Steph. Occasional; Salterns, Island of Portsea.

Errata.—Page 5299, line 13 from bottom, for "Fish-hook Bay" read "Gurnard Bay." Page 5301, lines 1 and 2, read thus:—

"*Pœcilus cupreus*, Linn. Very common.

" " *var. versicolor*, Sturm., Steph. Not common."

Page 5302, line 10 from bottom, for "1853" read "1855."

Addenda.—The following species of *Geodephaga* have either been determined or have been captured since the preceding part of the List was compiled:—

Dromius 4-notatus, Panz., Steph. Occasional; under bark of trees.

D. fasciatus, Gyll., Steph. A specimen taken in a hedge-bank at Privet, by H. Adams, Esq., September, 1856.

Dyschirius æneus, *Dej.* *D. thoracicus*, *D. tristis*, *D. pusillus*, *Steph.* On muddy banks of ditches at Privet.

Pogonus chalceus, *Marsh., Steph.* *P. littoralis*, *Steph.* Abundant under *débris* in the Salterns, Island of Portsea, and in a salt-marsh near Fort Monkton.

Curtonotus spinipes, *Linn.* *C. aulicus*, *Panz.*, *C. piceus*, *Steph.* Under stones along Stokes Bay.

C. convexiusculus, *Marsh.* At roots of grass in a damp bank at Grange.

Ophonus pubescens, *Payk., Steph.* Not abundant; under stones on Southsea Common.

O. obsoletus, *Dej.* During September and October this species has been taken by the authors in some abundance in the Salterns, Island of Portsea.

HYDRADEPHAGA.

In this and the following section the authors have to express their obligations to Dr. Power, who has kindly determined for them many of their doubtful species. The arrangement followed is that of Dawson and Clark's recent Catalogue.

I. Fam. DYTISCIDÆ, *Leach.*

1. Sub-fam. *Dytiscinæ.*

1. *Dytiscus*, *Linn.* *Dyticus*, *Geoff., Steph.*

D. marginalis, *Linn., Steph.* *D. submarginalis*, *Steph.* Common; in ponds.

2. *Acilius*, *Leach.*

A. sulcatus, *Linn., Steph.* Abundant; in ponds.

2. Sub-fam. *Colymbetinae.*

3. *Colymbetes*, *Clairv.*

C. fuscus, *Linn.* *C. Paykulli*, *C. striatus*, *Steph.* Very common; ponds and ditches.

C. pulverosus, *Sturm., Steph.* *C. conspersus*, *Gyll.*, *C. notatus*, *Lacord.* (not *Fabr.*) Tolerably common; ponds at Hillhead, and in ditches near Portsea Salterns.

4. *Ilybius*, *Erichs.*

I. ater, *Degeer*, *Steph.* *I. quadrinotatus*, *Steph.* Not unfrequent; Gomer pond.

I. obscurus, *Marsh.*, *Steph.* *I. quadriguttatus*, *Lacord.* Not common; ditches.

I. uliginosus, *Linn.* *I. fuliginosus*, *Fabr.*, *Steph.*, *I. lacustris*, *Steph.* Rather scarce; ponds near Southsea.

5. *Agabus*, *Leach.*

A. agilis, *Fabr.*, *Steph.* *A. oblongus*, *Steph.* Not rare; ditches at Grange.

A. uliginosus, *Payk.* *A. dispar*, *Bold.* Found in some abundance in a small quarry on Chark Common.

A. Sturmii, *Gyll.*, *Steph.* Occasional; ditches at Chark Common.

A. chalconotus, *Panz.*, *Steph.* *A. cyaneus*, *A. montanus*, *A. aterimus*, *A. nigroæneus*, *Steph.* Tolerably common; ponds at Chark Common.

A. maculatus, *Linn.*, *Steph.* Occasional; ponds near Portsmouth.

A. didymus, *Oliv.* *A. vitreus*, *Payk.*, *Steph.* Rather rare; ditches at Chark.

A. paludosus, *Fabr.*, *Steph.* *A. striolatus*, *Steph.* Not common; ditches at Grange.

A. bipunctatus, *Fabr.* *A. nebulosus*, *Steph.* Very common; ponds and ditches.

A. conspersus, *Marsh.*, *Steph.* *A. subnebulosus*, *Steph.* Rare; ditches at Grange.

A. bipustulatus, *Linn.*, *Steph.* *A. Snowdonius*, *Newm.*, *Steph.* Very abundant; ditches and ponds.

6. *Noterus*, *Clairv.*

N. crassicornis, *Fabr.*, *Steph.* Occasional; ditches at Grange.

N. semipunctatus, *Fabr.*, *Steph.* Tolerably frequent; ditches.

7. *Laccophilus*, *Leach.*

L. minutus, *Linn.* *L. hyalinus*, *Steph.* Abundant; ditches, everywhere.

8. *Hyphidrus*, *Ill.*

H. ovatus, *Linn.*, *Steph.* *H. variegatus*, *Steph.* Rather abundant; ditches.

3. Sub-fam. *Hydroporinae*.9. *Hydroporus*, *Clairv.*

H. inæqualis, *Fabr.*, *Steph.* *H. reticulatus*, *Steph.* Occasional; ditches at Chark.

H. decoratus, *Gyll.*, *Steph.* Not common; ditches at Grange and at Chark.

H. 12-pustulatus, *Fabr.* *H. 12-punctatus*, *Steph.* Rare; ditches at Chark.

H. parallelogrammus, *Ahr.* *H. consobrinus*, *H. lineatus*, *Steph.* Not scarce; ditches near Portsea Salterns.

H. confluens, *Fabr.*, *Steph.* Not common; ditches at Grange.

H. erythrocephalus, *Linn.*, *Steph.* Common; ditches at Chark.

H. planus, *Fabr.* *H. ater*, *H. holosericeus*, *H. pubescens*, *Steph.* Tolerably abundant; ditches at Grange and at Chark.

H. pubescens, *Gyll.* *H. melanocephalus*, *H. caliginosus*, *Steph.*, *H. planus*, *Steph. Illustr.* Rather common; ditches at Grange and at Chark.

H. xanthopus, *Steph.* *H. flavipes*, *Steph.*, *H. planus*, *Steph. Man.* In some abundance; ditches about Grange.

H. palustris, *Linn.*, *Steph.* *H. 6-pustulatus*, *H. proximus*, *Steph.* Common; ditches at Chark.

H. lineatus, *Fabr.* *H. pygmæus*, *H. ovalis*, *Steph.* Not common; ditches at Chark.

H. lepidus, *Oliv.* *H. scitulus*, *Steph.* Not rare; ditches at Chark.

4. Sub-fam. *Haliplinae*.10. *Haliplus*, *Latr.*

H. mucronatus, *Steph.* A single specimen taken by one of the authors in a ditch at Chark Common, in September, 1856.

H. affinis, *Steph.* Not abundant; ditches at Grange.

H. ruficollis, *Deg.*, *Steph. Illustr.* *H. fulvicollis*, *H. melanocephalus*, *H. brevis*, *Steph.* Not unfrequent; ditches at Grange.

H. fluviatilis, *Aubé.* Occasional; ditches at Grange.

H. obliquus, *Fabr.*, *Steph.* Not very common; ditches at Grange.

H. lineatocollis, *Marsh.*, *Steph.* Rather common; ditches at Chark.

11. *Cnemidotus*, *Ill.*

C. cæsus, *Dufst.*, *Steph.* Rare; ditches at Chark.

2. Fam. GYRINIDÆ, *Leach*.1. *Gyrinus*, *Geoff*.

G. natator, *Linn.*, *Steph.* *G. substriatus*, *Steph.* Very abundant; ponds and ditches.

G. bicolor, *Payk.*, *Steph.* In the Salterns, Island of Portsea; in some abundance.

PHILHYDRIDA.

1. Fam. HETEROCERIDÆ, *MacLeay*.1. *Heterocerus*, *Bosc*.

H. marginatus, *Fabr.*, *Steph.* *H. flexuosus*, *H. Marshami*, *H. lævigatus*, *Steph.* Rare; on muddy banks at Privet.

2. Fam. PARNIDÆ.

1. *Parnus*, *Fabr.*

P. prolifericornis, *Fabr.*, *Steph.* *P. impressus*, *Steph.* Taken in profusion, in September, among weeds in a wet ditch at Privet.

3. Fam. ELMIDÆ, *Shuck*.1. *Elmis*, *Latr.*

E. æneus, *Müll.* *E. Maugetii*, *Steph.* Rare; in ditches.

4. Fam. HELOPHORIDÆ, *Leach*.1. *Helophorus*, *Fabr.*

H. aquaticus, *Linn.*, *Steph.* *H. grandis*, *Ill.* Tolerably common; pools and ditches.

H. nubilus, *Fabr.*, *Steph.* Rather rare; pools. Occasionally caught flying.

H. griseus, *Herbst.* *H. tuberculatus*, *Steph.* Very common; pools.

2. *Ochthebius*, *Leach*.

O. marinus, *Payk.* *O. dilatatus*, *Steph.* Rare; Salterns, Island of Portsea.

O. æneus, *Waterh.* Rare; ditches at Chark.

O. æratus, *Steph.* *O. nanus*, *O. hibernicus*, *Steph.* Not common; ditches at Grange.

3. *Hydræna*, *Kugel.*

H. riparia, *Kugel*, *Steph.* *H. gracilis*, *H. pulchella*, *H. nigrita*, *H. pusilla*, *Steph.* Rare; Salterns, Island of Portsea.

5. Fam. HYDROPHILIDÆ, *Leach.*1. *Limnebius*, *Leach.*

L. lutosus, *Marsh.*, *Steph.* *L. nigricans*, *L. nigrinus*, *L. mollis*, *L. marginalis*, *Steph.* Rare; ditches at Chark Common.

2. *Berosus*, *Leach.*

B. luridus, *Linn.* Not common; ponds at Chark.

B. æriceps, *Curt.* Not unfrequent; ponds at Chark.

3. *Hydrophilus*, *Geoff.*

H. piceus, *Linn.* Occasional; ponds near Southsea.

4. *Hydrobius*, *Leach.*

H. fuscipes, *Linn.*, *Steph.* *H. chalconotus*, *H. subrotundus*, *Steph.* Very common; ditches.

H. globulus, *Payk.*, *Steph.* *H. minutus*, *Steph.*, *Laccobius limbat*, *Steph.* Not abundant; ditches at Chark.

5. *Laccobius*, *Erichs.*

L. minutus, *Linn.* *L. bipunctatus*, *L. striatulus*, *L. colon*, *Steph.* Not abundant; ditches at Grange and at Chark.

6. *Philydrus*, *Sol.*

P. melanocephalus, *Oliv.*, *Steph.* *P. testaceus*, *P. ochropterus*, *P. torquatus*, *P. fulvus*, *Steph.* Abundant; under *débris* along margins of salt-marshes and pools.

[6. Fam. SPHÆRIDIIDÆ, *Leach.*1. *Cyclonotum*, *Erichs.*

C. orbiculare, *Fabr.* Abundant; among damp weeds, on aquatic plants, and along banks of ponds and ditches.

2. *Sphæridium*, *Fabr.*

S. Scarabæoides, *Linn.*, *Steph.* *S. lunatum*, *S. Daltoni*, *Steph.* Very common; in cow-dung.

S. bipustulatum, *Fabr.*, *Steph.* *S. marginatum*, *S. 4-maculatum*, Common; in dung.

3. *Cercyon*, *Steph.*

C. obsoletum, *Gyll.*, *Steph.* Not common; under stones on Browndown.

C. hæmorrhoum, *Gyll.*, *Steph.* *C. xanthorhæum*, *Steph.* Rather frequent; in dung.

C. unipunctatum, *Linn.* *C. quisquilius*, ♀, *Steph.* In horse-dung; not very frequent.

C. quisquilius, *Linn.* *C. flavum*, *Steph.* *C. unipunctatum*, ♂, *Steph.* Common; in dung.

C. littorale, *Gyll.*, *Steph.* *C. ruficorne*, *C. dilatatum*, *C. binotatum*, *C. bimaculatum*, *Steph.* Banks of ponds; rather common.

C. melanocephalum, *Linn.*, *Steph.* Rather rare; along ditches.

NECROPHAGA.

In this group the species of *Catops* have been obligingly named for us by Andrew Murray, Esq., who by his recent Monograph has made this genus entirely his own.

1. Fam. SILPHIDÆ, *MacLeay*.

1. *Necrophorus*, *Fabr.*

N. Humator, *Fabr.*, *Steph.* Very common.

N. Vespillo, *Linn.*, *Steph.* Common.

N. Vestigator, *Herbst.*, *Steph.* Extremely abundant.

N. Sepultor, *Charp.*, *Steph.* Very rare. Three specimens have been taken, one under a dead snake on Browndown.

N. Mortuorum, *Fabr.*, *Steph.* Rather common, especially in dead fish.

N. interruptus, *Brullé*, *Steph.* Very rare. Three specimens have been taken, one in a dead fish.

2. *Necrodes*, *Wilk.*

N. littoralis, *Linn.*, *Steph.* Rather rare.

3. *Oiceoptoma*, *Leach*.

O. thoracica, *Linn.*, *Steph.* Not common; mostly in dead fish.

O. rugosa, *Linn.*, *Steph.* Very abundant.

O. sinuata, *Fabr.*, *Steph.* Common.

4. *Silpha*, *Linn.*

S. reticulata, *Ill.*, *Steph.* A single specimen obtained by one of the authors in Haslar Lane.

S. tristis, *Ill.*, *Steph.* Tolerably common.

S. obscura, *Linn.*, *Steph.* Very common.

S. lævigata, *Fabr.*, *Steph.* Common.

5. *Phosphuga*, *Leach.*

P. atrata, *Linn.*, *Steph.* Local and not common. Burrows in decaying trees.

6. *Catops*, *Fabr.*

C. angustatus, *Fabr.* About roots of grass in banks at Privet.

„ *var. Cisteloides*, *Steph.* Not common; among grass on banks at Grange.

C. nigricans, *Spence.* Taken from dead moles at Alverstoke.

C. nigrita, *Erichs.* Taken with the last species.

C. tristis, *Panz.*, *Erichs.* In dead moles and in dead fish.

C. pumatus, *Erichs.* Chiefly in dead fish.

C. scitulus, *Erichs.* In dead moles and in decaying fish.

C. sericeus, *Erichs.* Taken usually crawling along field-paths, and also in dead fish.

ARTHUR ADAMS,
WM. BALFOUR BAIKIE.

Haslar Hospital,
November 14, 1856.

(To be continued).

Note on Phytosus spinifer and Phytosus nigriventris.—On examining my specimens of *Phytosus*, I find that I have, from our own coast, both of the species which are found on the Continent, and which hitherto have been regarded as male and female of one species by most collectors. I copy from *Erichson's 'Natur. der Insecten'* the short Latin diagnosis of each:—

1. *PHYTOSUS SPINIFER*, *Curtis, Brit. Ent. t. 718.* *Erichson, Gen. et Spec. Staph. 178.* *Fairm. et Laboul. Faune, i. 467.* *Erich. Nat. der Insecten, ii. 44.*

“Niger, dense cinereo-pubescens, antennis anoque ferrugineis, pedibus piceis, coleoptris thorace tertia fere parte longioribus, apice rufescentibus. Long. 1½ lin.”

The large size, broader form and uniform brownish black colour will readily separate this species from the following. Of it (*spinifer*) I have only one specimen, which I took by sweeping *Cakile maritima*, on the sea-coast near Hartley, Northumberland:—

2. *PHYTOSUS NIGRIVENTRIS*, Chev. *Kraatz, Stett. Ent. Zeit.* xiv. 257, t. 3, f. 6.
Faism. et Laboul. Faune, i. 467. *Erichson, Nat. der Insecten*, ii. 43.
Myrmedonia nigriventris, Chev. *Rev. Zool.* 1843, p. 42.
Phytosus spinifer, mas., *Curtis, Brit. Ent.* t. 718. *Steph. Man.* p. 417.
Phytosus spinifer, fem., *Erich. Gen. et Spec. Staph.* 178, 1.

"*Nigro-piceus*, dense cinereo-pubescent, antennis, thorace, elytris, ano pedibusque flavo-testaceis, coleopteris thorace dimidio fere brevioribus. Long. $1\frac{1}{2}$ lin."

Easily known by its narrow form, pale colour and much abbreviated elytra. I evidently have both sexes; in one the head is large, with the antennæ long, the abdomen shorter and more obtuse at its apex; this, I fancy, will be the male although MM. Fairmaire and Laboulbène are of opinion that the small narrow individuals are of that sex. Taken, beneath Algæ, on the Durham and Northumbrian coasts.—*Thomas John Bold; Long Benton, Newcastle-on-Tyne, January 12, 1857.*

Capture of Anommatus 12-striatus in the North of England.—In working up some undetermined Coleoptera to-day, I detected a single specimen of *Anommatus duodecim-striatus*, Müll., a species, I think, not hitherto recorded as British. My brother took it on a decaying plant of the cultivated pansy, in a garden at Morpeth Northumberland, so far back as the 9th of August, 1847. The beautiful figure of Sturm (xxi. pl. 391) and the careful description of Erichson (*Natur. der Insecten* iii. 286) leave me without a doubt of its specific identity.—*Id.; January 1, 1857.*

PROCEEDINGS OF SOCIETIES.

ENTOMOLOGICAL SOCIETY.

December 1, 1856.—J. O. WESTWOOD, Esq., Vice-President, in the chair.

Donations.

The following donations were announced, and thanks ordered to be given to the donors:—‘*Annales des Sciences Physiques et Naturelles d’Agriculture et d’Industrie*, Deuxième Série, Tome vii. 1re Partie; presented by La Société Impériale d’Agriculture, &c., de Lyon. ‘*Annales de la Société Linnéenne de Lyon*, Années 1854, 1855, Tome ii.; by the Society. ‘*Mémoires de l’Académie Impériale des Sciences, Belles-lettres et Arts de Lyon*, Classe des Sciences, Tome v., Classe des Lettres, Tome vi.; by the Society. M. B. P. Perroud, ‘*Mélanges Entomologiques*, 3ième Partie; by the Author. ‘*Proceedings of the Boston Society of Natural History*, Nos. 12 to 21, inclusive; by the Society. ‘*Report of the Commissioner of Patents for the year 1854, —Agriculture;*’ by the United States’ Commissioner of Patents.

To Entomologists, Authors, and Lovers of Natural History.

R. JAMES FOXCROFT, the well-known and experienced Collector, begs to return his sincere thanks to the Trustees of the British Museum, the Nobility and Gentry, and also particularly to the Members of the Entomological Society, for the patronage he has received for a number of years as a Collector of British Lepidoptera and Coleoptera. He begs to state that he intends to visit **SIERRA LEONE** and the **RIVER GAMBIA**, leaving this country in November, 1857 (this will be after he returns from his Summer's Collecting in Scotland this year), and that he will remain in Africa during one, two or three Seasons, according to the encouragement he may receive. He will devote the whole of his time to searching for and collecting **INSECTS** of **ALL ORDERS**. In order to enable him to meet the expense attending this Journey, he is desirous of obtaining a limited number of Subscribers, at £5 per annum, for one year's collecting of either Lepidoptera or Coleoptera; for two seasons' Subscription £10 for each Order; and for the three seasons, £15 for each Order. The money subscribed is to be paid to **MR. SAMUEL STEVENS**, 24, Bloomsbury Street, London, as early as convenient, as **MR. FOXCROFT** wishes to know how many Subscribers he can obtain before crossing England, in order that he may provide a sufficient number of boxes to contain each Subscriber's share separately, it being his intention, if he stops more than one season, to share the whole of the Insects annually. Each box will be sealed, directed to the Subscriber's name and address, and enclosed in one large packing-case, addressed to **MR. SAMUEL STEVENS**. Any Subscriber not feeling satisfied with what Insects he gets his first year for his Subscription may withdraw his name, as **MR. FOXCROFT**'s intention is only to take the first year's Subscription before starting, but will take names for the three years. All packing-cases or boxes that the Insects are sent in are to be returned to **MRS. FOXCROFT**. Any person wishing for further information can apply to **MR. FOXCROFT** at 3, Union Yard, Oxford Street, near Orchard Street, London, West District, any time between the present time and the end of February, 1857.

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